

REMARKS

In the Office Action of October 4, 2007, the title of the invention was alleged to be not descriptive, and thus, a new title has been required that is clearly indicative of the invention to which the claims are directed. In addition, claims 1, 2, 4-6, 8 and 10-31 were rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over U.S. Patent No. 6,363,338 (hereinafter "Ubale et al.") in view of U.S. Patent Application No. 2002/0173950 A1 (hereinafter "Vierthaler"). Furthermore, claims 3, 5, 7 and 9 were rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Ubale et al. in view of Vierthaler and in further view of U.S. Patent No. 4,630,305 (hereinafter "Borth et al.") or U.S. Patent No. 5,890,125 (hereinafter "Davis et al.")

With respect to the title of the invention, Applicants respectfully assert that the current title is clearly indicative of the invention to which the claims are directed. Thus, Applicants respectfully request that the requirement for a new title be withdrawn.

With respect to the claim rejections, Applicants have amended the independent claims 1, 2, 18, 19 and 27 to more clearly distinguish the claimed invention from the cited references of Ubale et al. and Vierthaler. Claims 3-8, 10-15 and 17, 20-26 and 28 have also been amended. As amended, Applicants respectfully assert that the independent claims 1, 2, 18, 19 and 27 are not obvious in view of the cited references of Ubale et al. and Vierthaler, as explained below. In view of the claim amendments and the following remarks, Applicants respectfully request that the pending claims 1-31 be allowed.

A. Patentability of Amended Independent Claims 1, 2, 18, 19 and 27

As amended, the independent claim 1 recites in part "*wherein the functional relationship is such that the average gain factor for the first range lies at least 6 dB below that for the second range and the average gain factor for the second range is greater than zero,*" which is not disclosed in the cited references of Ubale et al. and Vierthaler. Thus, Applicants respectfully assert that the amended independent claim 1

is not obvious in view of the cited references of Ubale et al. and Vierthaler, and request that the amended independent claim 1 be allowed.

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

As correctly stated on page 3 of the Office Action, the cited reference of Ubale et al. “does not disclose specifically a gain factor with a functional relationship such that the functional relationship between gain factor (z) and input level (y) comprises a first (I) and second range (II), the first range (I) covering amplitudes in which mainly voiced phonemes are situated, the second range (II) situated at input levels (y) lower than those for the first range (I) and covering input levels in which mainly unvoiced phonemes are situated, wherein the functional relationship is such that the average gain factor for the first range (I) lies at least 6 dB below that for the second range (II).” Consequently, the cited reference of Ubale et al. also does not disclose the limitation of “*wherein the functional relationship is such that the average gain factor for the first range lies at least 6 dB below that for the second range and the average gain factor for the second range is greater than zero*,” as recited in the amended independent claim 1.

The cited reference of Vierthaler discloses a circuit for improving the intelligibility of audio signals containing speech. The circuit of Vierthaler includes a low pass filter 10 and a variable high pass filter 20, as shown in Figs. 1-3. As described in paragraph [0028] of Vierthaler, for a vowel, “the fundamental wave is lowered to the point that the output amplitude is equal to the input amplitude of the audio signal, even though the selected amplification is 6 dB.” Thus, the vowel is not

amplified by the circuit of Vierthaler. Consequently, the cited reference of Vierthaler does not disclose “*wherein the functional relationship is such that the average gain factor for the first range lies at least 6 dB below that for the second range and the average gain factor for the second range is greater than zero,*” as recited in the
5 amended independent claim 1.

The above remarks are also applicable to the amended independent claims 2, 18, 19 and 27, which recite similar limitations as the amended independent claim 1. Thus, these amended independent claims 2, 18, 19 and 27 are also not obvious in view
10 of the cited references of Ubale et al. and Vierthaler.

Furthermore, with respect to the amended independent claims 2 and 19, the cited references of Ubale et al. and Vierthaler also do not disclose the limitation of “*the first range extending from a maximum value input level downwards at least 10*
15 *dB.*” Although paragraph [0004] of Vierthaler does mention “-10 dB limiting,” the cited reference of Vierthaler does not disclose a first range that extends “*from a maximum value input level downwards at least 10 dB,*” as recited in the amended independent claims 2 and 19, which further supports the conclusion that these independent claims are not obvious in view of the cited references of Ubale et al. and
20 Vierthaler.

B. Patentability of Dependent Claims 3-17, 20-26 and 28-31

Each of the dependent claims 3-17, 20-26 and 28-31 depends on one of the
25 amended independent claims 1, 2, 18, 19 and 27. As such, these dependent claims include all the limitations of their respective base claims. Therefore, Applicants submit that these dependent claims are allowable for at least the same reasons as their respective base claims.

As an example, the dependent claim 3 recites “*wherein the attributor is arranged such that the first range extends from the maximum value input level at least*
30 *15 dB, but not more 30 dB,*” which is not disclosed in the cited references of Ubale et al., Vierthaler and Borth et al. The Office Action on page 13 alleges that the cited

reference of Borth et al. discloses “using a gain value that can increase up to a max value (column 8 lines 50-65) of which has a max limit of 20 db (column 9 lines 1-10) because any background noise requiring suppressing higher than 20 dB degrades considerably the quality of the signal (column 2 lines 25-35).” However, the cited passages of Borth et al. describes “noise suppression levels,” not the location of “*the first range*” with respect to “*the maximum value input level*,” as recited in the dependent claim 3. Thus, the cited reference of Borth et al. does not disclose “*wherein the attributor is arranged such that the first range extends from the maximum value input level at least 15 dB, but not more 30 dB*,” as recited in the dependent claim 3, which further supports the conclusion that the dependent claim 3 is not obvious in view of the cited references.

As another example, the dependent claim 12 recites “*wherein the attributor is arranged such that the second range is, at a lower boundary value juxtaposed by a fourth range in which the gain factor is substantially zero*,” which is not disclosed in the cited references of Ubale et al. and Vierthaler. The Office Action alleges on page 9 that the cited reference of Ubale et al. discloses this limitation and states that “the lowest boundary starts at 0 dB and gradually increases as shown by the formula, column 23 lines 1-30.” However, the cited reference of Ubale et al. does not disclose applying this 0 dB gain factor in “*a fourth range*,” which is situated relative to “*the second range*” such that “*the second range is, at a lower boundary value juxtaposed by [the] fourth range*.” Thus, the cited reference of Ubale et al. does not disclose “*wherein the attributor is arranged such that the second range is, at a lower boundary value juxtaposed by a fourth range in which the gain factor is substantially zero*,” as recited in the dependent claim 12, which further supports the conclusion that the dependent claim 12 is not obvious in view of the cited references.

30

Applicants respectfully request reconsideration of the claims in view of the remarks made herein. A notice of allowance is earnestly solicited.

5

Respectfully submitted,
Macours et al.

10

Date: January 4, 2008

By: /thomas h. ham/
Thomas H. Ham
Registration No. 43,654
Telephone: (925) 249-1300